User data:

Data type	Value
Street address	2200 Monroe
City	Santa Clara
State	CA
Zip	95054
Phone	408-555-6094

Submitted form:

Field name	Value
AddrStr	2200 Monroe
AddrCity	Santa Clara
AddrState	CA
AddrZip	95054

Result mapping:

Field name	Field type
AddrStr	Street address
AddrCity	City
AddrState	State
AddrZip	Zip

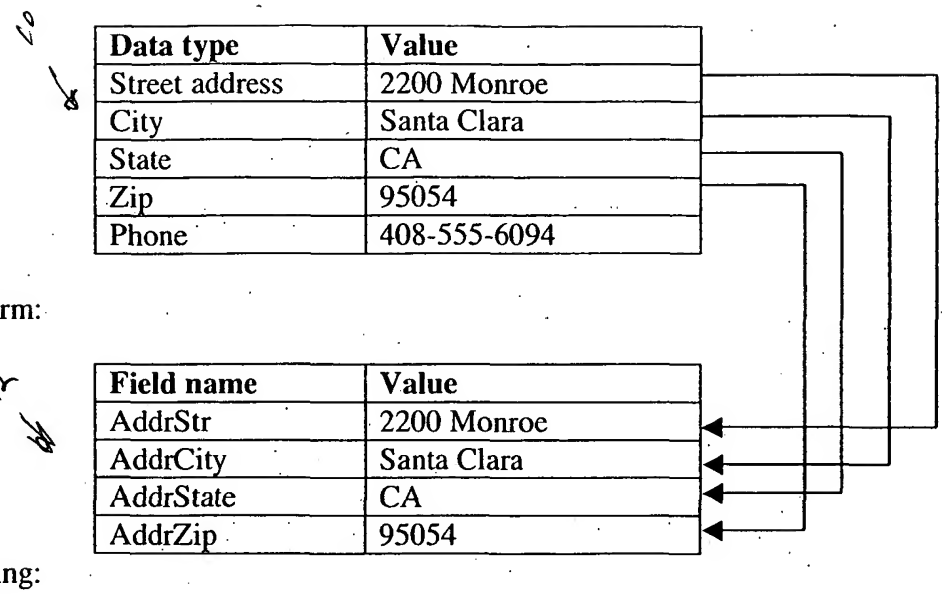

Figure 1

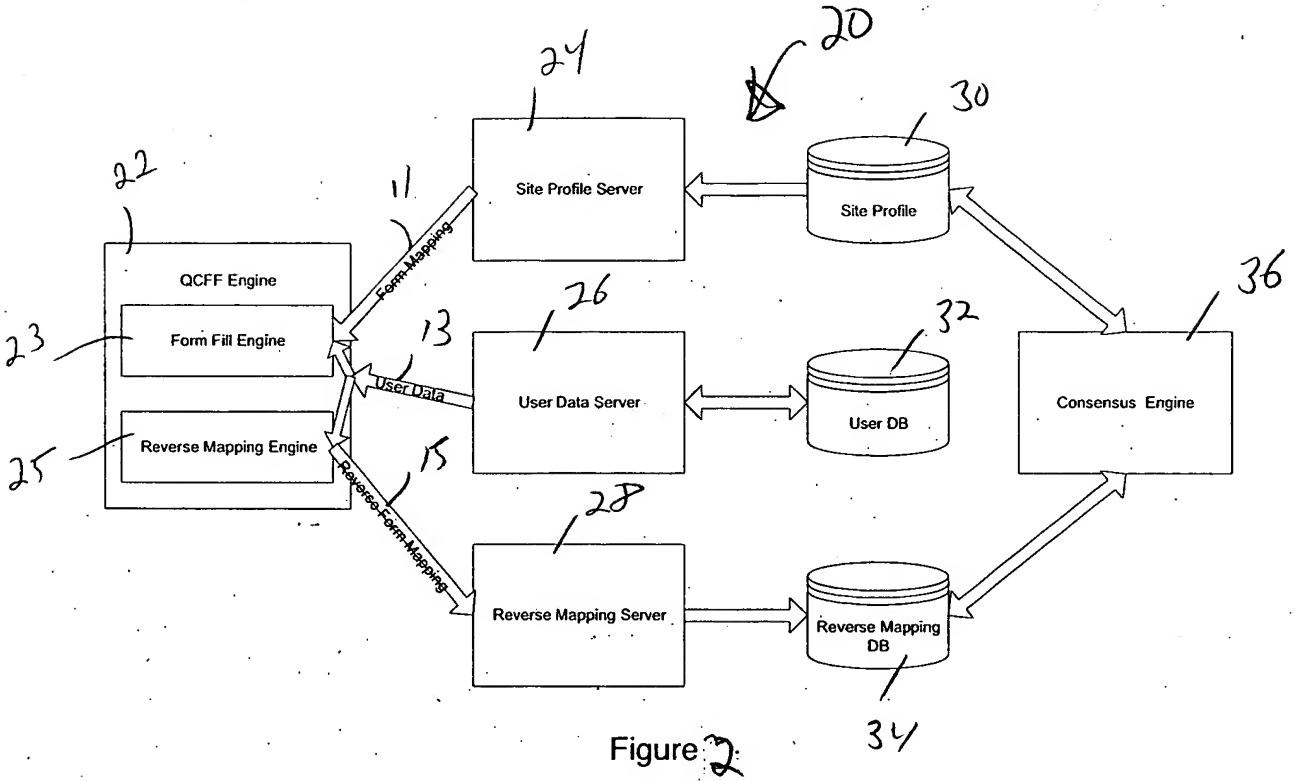
20
24
30
22
11
Site Profile Server
Site Profile
QCFF Engine
Form Mapping
36
23
Form Fill Engine
26
13
32
User Data
User Data Server
User DB
Consensus Engine
25
Reverse Mapping Engine
15
28
Reverse Form Mapping
Reverse Mapping Server
Reverse Mapping DB
34

Figure 2

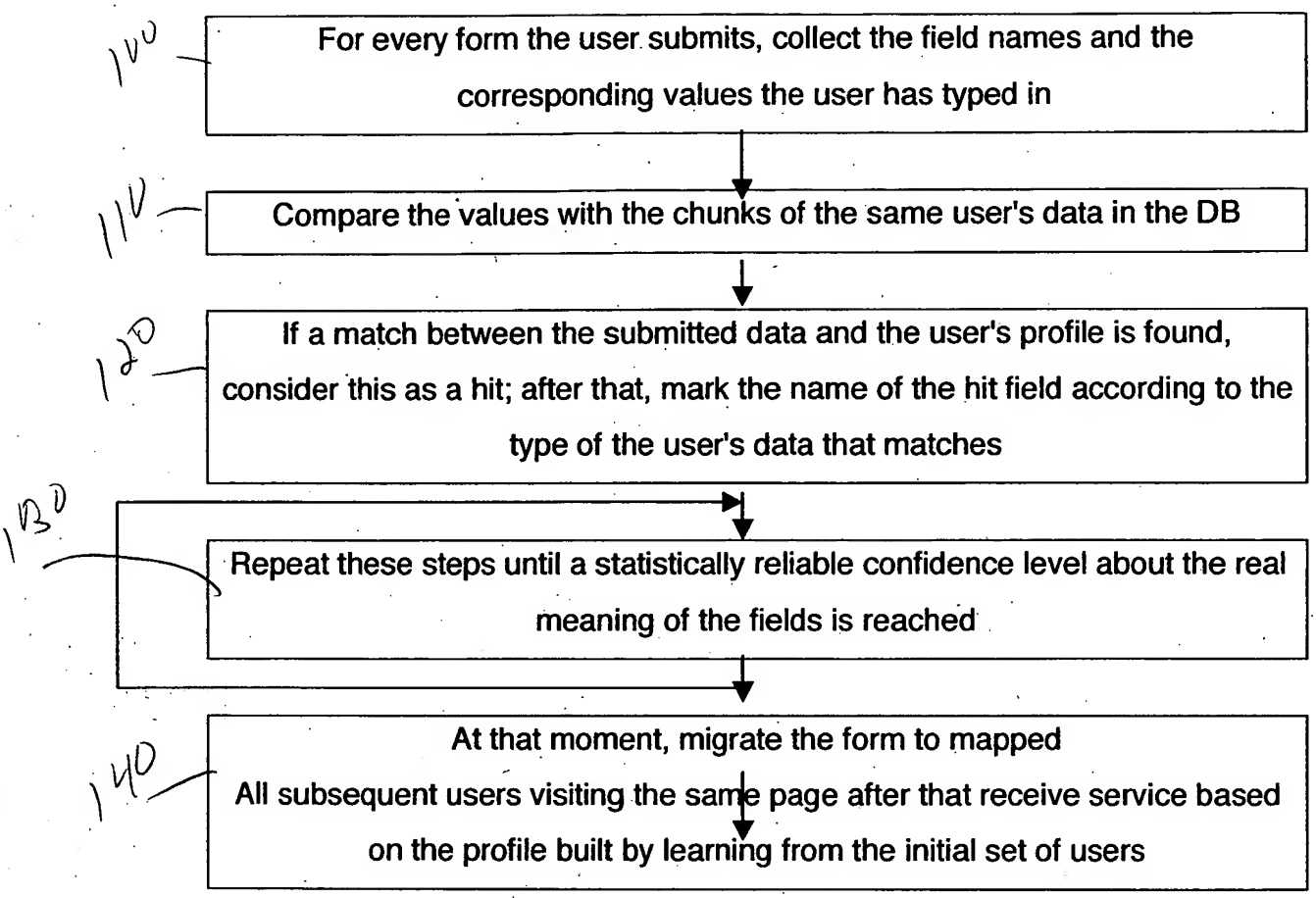
110
For every form the user submits, collect the field names and the corresponding values the user has typed in
115
Compare the values with the chunks of the same user's data in the DB
120
If a match between the submitted data and the user's profile is found, consider this as a hit; after that, mark the name of the hit field according to the type of the user's data that matches
130
Repeat these steps until a statistically reliable confidence level about the real meaning of the fields is reached
140
At that moment, migrate the form to mapped
All subsequent users visiting the same page after that receive service based on the profile built by learning from the initial set of users

Figure 3

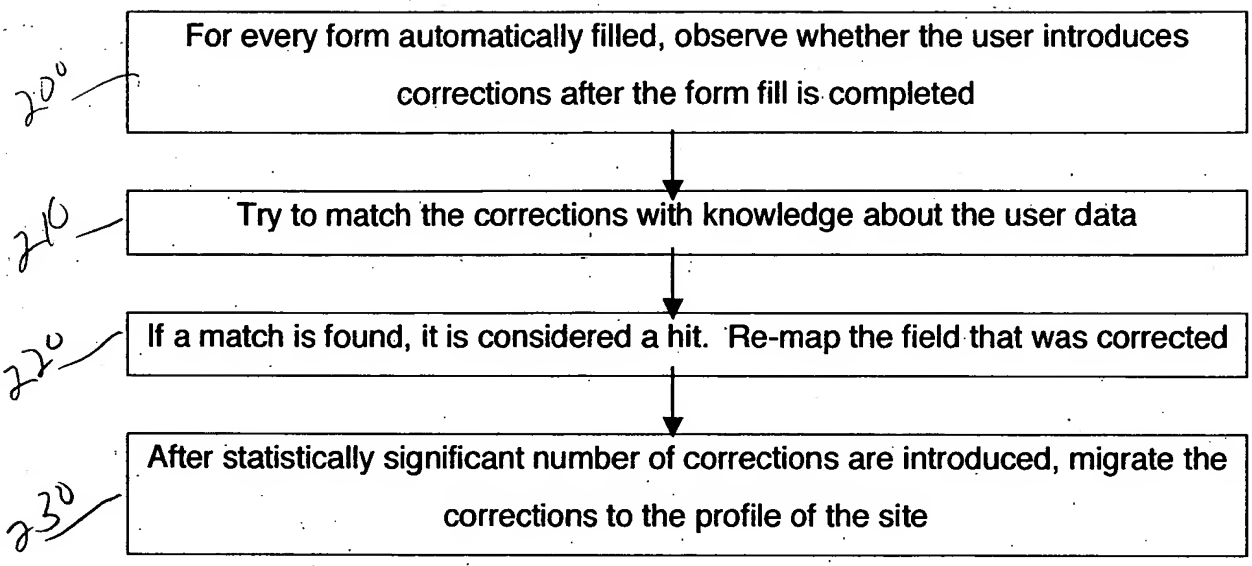
For every form automatically filled, observe whether the user introduces corrections after the form fill is completed
Try to match the corrections with knowledge about the user data
If a match is found, it is considered a hit. Re-map the field that was corrected
After statistically significant number of corrections are introduced, migrate the corrections to the profile of the site
210
220
230

Figure 4